Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
Carrier Current Systems, including Broadband over Power Line Systems	)	ET Docket No. 03-104
Amendment of Part 15 regarding new requirements and measurement guidelines for Access Broadband over Power Line Systems	)	ET Docket No. 04-37

To: The Commission

COMMENTS OF SMALL BUSINESS IN TELECOMMUNICATIONS (SBT)

SBT is a nonprofit organization of small businesses that operate throughout the United States within the telecommunications market. Its members include carriers, manufacturers, amateur radio operators, and a host of other entities which will be affected by the Commission's decisions within this proceeding. SBT members are, therefore, vitally interested in the outcome of this rule making and appreciate the opportunity to provide their comments as follows:

Concerns

Although SBT recognizes the Commission's desire to find means to provide high-speed internet services to consumers across the Country, particularly in rural areas where the number of providers is often quite limited, SBT is concerned that in the Commission's zeal to provide those services it may not provide adequate protection for licensed operators. Therefore, SBT would ask that the Commission proceed carefully, balancing the laudable goal of providing new services against the potential harm to existing services. The Commission's Notice of Proposed Rule Making, although comprehensive, does not adequately address the means by which the Commission would be

able to effectively enforce the dictates of unlicensed use when applied to BPL delivery.

For example, SBT members recall clearly the number of times that cable television systems have suffered signal leakage that caused harmful interference to VHF operations. The harmful conditions have been suffered for weeks during those times when cable operators would deny that their systems were causing problems. Meanwhile, wireless systems were highly disrupted and customers of VHF paging systems often questioned the viability and reliability of carriers whose systems were suffering from these problems.

The NPRM does suggest that BPL carriers will, in essence, be self-monitoring, with the capacity to shut down all or a portion of a system that experiences improper leakage, resulting in harmful radiation of signals. However, the Commission has not fully articulated how such a mechanism for interference correction would be implemented or enforced. Given the fact that BPL is focused on delivery in rural areas, far from the capacity of the agency's monitoring stations to detect problems, the issue of enforcement of the Commission's rules becomes a matter of great practical importance to those licensed users whose businesses may be affected.

SBT's concern arises out of its members' recent experience with the Commission's failure to enforce its rules against manufacturers of television antennas that also amplify the received signal. Many of these antennas have been found to be a source of harmful interference to UHF land mobile and broadcast facilities, and have ruined the businesses of operators of UHF commercial systems. Yet, despite the Commission's knowledge of the fact that the antenna/amplifiers were the direct

source of harmful interference, which antennas were sold by the tens of thousands across the United States for installation on recreational vehicles and as a means of delivering local UHF television service to persons employing DBS for non-local broadcasting, the Commission did not order the manufacturer of the devices to perform a recall, did not produce a cease and desist order in the further marketing of the devices, and did not provide any remedy to any adversely affected licensed operator.

It is against this backdrop of recent experience that licensed operators examine the Commission's proposal to allow for the creation of BPL as a kind of ubiquitous delivery system for delivery of constant data communications. Although the Commission's proposals include expectations of proper operation which would continue to provide quiet enjoyment of the spectrum by licensed radio users, expectations have too often been shown to be unrealized in practice. And even if the comments provided by proponents are deemed to be fully sincere in every regard as to the measures that BPL operators might go to fulfill obligations under Part 15, i.e. operation at sufferance to licensed radio operations, some greater consideration must be given to the Commission's anticipated actions in responding to complaints of harmful interference which will likely arise.

It is already well known that the Commission provides little priority to complaints from commercial operators of harmful interference to their systems. The Commission's proper and first priority is the resolution of harmful interference to public safety operations. However, as all SBT members can report, the importance assigned to commercial operations is way, way down the field

offices' list of priorities, to the point where often the field office will do little more than eventually send a letter of inquiry to an offending party, if anything. The Commission's history of limited resources to deal with problems suffered by HF, VHF and UHF operators suffering interference from all kinds of sources of interference is well known. Although affected operators have been told time and again that the agency's limited budget dictates the Commission's capacity to respond to complaints, this explanation does nothing to reduce the fears of persons who, because of this rule making, are being made to confront a new and larger source of potential harmful interference.

Already, Part 90 and 22 operators must investigate and attempt to resolve interference from drive thru restaurants' equipment, surveying equipment, transceivers mounted on golf carts, inventory tracking systems, etc., with little assistance ever provided by the Commission's staff. And the problem is not getting better, but worse. To date, the Commission has been nearly unresponsive to these problems and has rejected requests for something as simple as a Public Notice to remind persons that even though their radio equipment was obtained lawfully from a manufacturer, use of that radio equipment must conform to the operational guidelines contained in the Commission's rules which require that operators avoid the creation of harmful interference.

SBT is fully aware that the parameters of this rule making are not sufficiently broad to allow for the Commission's treatment of each known form of harmful interference suffered by SBT's members. Nor does SBT request that the agency expand the nature of this rule making to deal with each of the illustrations employed herein. However, these illustrations point up the need for the Commission to move cautiously in this area and to provide necessary assurances to those licensed

operators whose lawful, licensed operations are threatened by the introduction into the radio environment of a system which might potentially radiate over an unquantifiable number of areas.

Information Is Essential

The Commission has proposed a new Section 15.209(g) that would require that BPL carriers participate in the creation of a data base which would show the locations and frequency bands of operation for BPL systems. SBT commends the Commission on this suggestion as a good step in the direction of assuring that BPL carriers provide some diagram of spectrum use that might be employed to assist in resolving incidents of harmful interference. Information regarding the source of interference and the responsible party is essential to create the ability of persons to assist in identifying problems for resolution.

Although the Commission's proposal is a good first step, the proposal does not go far enough in providing necessary utility to the collection of this information, nor does it state with any specificity the means by which the information would be kept current. SBT agrees that the information collected be made available to any and all requesting parties for the purpose of determining whether a source of harmful interference to licensed operation might be the introduction into the environment of BPL radiation.

An operator of licensed equipment which suffers harmful interference should not be made to wonder whether the source might be BPL radiation. That operator should be able to make a determination or educated estimation based on information provided via the data base. If the area of

interference coincides with the presence of power lines that are thought to carry BPL, the licensed operator should be able to confirm those suspicions by accessing the BPL data base created under Section 15.209(g).

The data base should also contain 24-7 contact information for each of the BPL carriers, which information could be employed by the affected licensed operator for the purpose of informing the BPL carrier of a potential problem. This contact is the first step between operators for the purpose of engaging in a meaningful dialogue to seek peaceful resolution of the matter without the need to involve the Commission. Licensed operators should not be put to the task of having to negotiate an often byzantine telephone system to reach the proper person within an organization as large as a utility company, to discover by chance the proper individual for the purpose of reporting a problem. A simple inclusion of 24-7 contact information within the data base would solve this problem.

All information within the data base should be required to remain current. The proposed Section 15.209(g) does not speak to updating of information or whether the information to be provided must be made available before deployment of BPL in a given area or along specific lines. Given the essential nature of the information and the value in maintaining current all technical and contact information, the Commission's directions to BPL operators in reporting and collecting this information should be made far more specific. As it stands, the content of the NPRM does not make clear the Commission's requirements regarding the quality of the data base.

Based on the foregoing, SBT respectfully recommends that proposed Section 15.209(g) be amended prior to adoption to read:

> (g) Entities operating Access Broadband over Power Line systems shall supply to a Federal Communications Commission/National Telecommunications and Information Administration recognized industry-operated entity, information on all existing, changes to existing and proposed Access BPL systems for inclusion in a data base. Such information **shall be kept current and** shall include the **specific** installation locations, frequency bands of operation, type of modulation used, **and contact information for persons given responsibility by each carrier for resolving reports of harmful interference from operation.** No notification to the FCC is required, **however, such information shall be made fully available in electronic form for public inspection and use.**[1]

To assure compliance with this vital effort, the Commission should clearly state in its Order that the responsibility, for assuring that the information provided to the collecting entity operating under Section 15.209(g) is current and accurate, will fall on each of the Access BPL carriers whose duties shall include assuring that all of their information is provided to the collection entity for publication before the carrier constructs and commences operation of each location, or prior to the carrier's modification of any portion of the BPL system which would render the information provided inaccurate or incomplete. To wit, the Commission should state that each BPL operator is individually responsible for monitoring the data base to assure accuracy and completeness, and that an operator's failure in assuring that the information published on the data base regarding the operator's system is current, complete and accurate shall be deemed that operator's violation of the agency's rules and policies. In sum, the Commission should place the responsibility for the quality and completeness of the data on those entities who are responsible for reporting that information.

It is SBT's strong belief that the Commission's commitment to spurring cooperation by

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[1] SBT's proposed language is indicated by bold typeface.

insistence on the availability of accurate information will go a long way toward encouraging operators of licensed systems and BPL systems to cooperate. Absent the availability of this information, licensed operators may jump to the conclusion that a BPL system is the source of harmful interference when such may not be the case. If, by being able to access the data base, the utility company's operations might be eliminated as a possible source, the utility company will not receive needless complaints and licensed operators will be informed to seek for other sources of interference that may be disturbing legitimate operations.

SBT supports the creation of a centralized data base for these purposes, rather than data bases which are spread among individual BPL carriers. Ease of information collection and retrieval should be the goal of the data base, which goal is best gained via the creation of a central data base. This stated, SBT suggests that the Commission direct BPL service providers to install a hot link on their web sites to the BPL central data base, to ease navigation from the BPL providers' sites to the central data base. SBT further suggests that the data base include mapping software that is sufficiently detailed as to show the exact locations of the lines over which BPL is traveling. Meets and bounds or general descriptions are insufficient for narrowing the licensed operator's search in determining whether a specific power line is a potential source of interference. Thus, the Commission should provide some degree of direction and input into making the information within the data base understandable, user friendly, and clear.

Although the Commission has stated in its proposed Section 15.209(g) that notification to the

agency is not required, SBT respectfully requests that the Commission state clearly that the content and quality of the data base is deemed within the Commission's area of concern and that the Commission's authority extends to its ability and willingness to demand that the data base be improved, made more specific, kept current, or otherwise altered to reach more efficiently and properly the intended purpose of the data base's existence. SBT would not expect that the Commission would constantly monitor the data base or attempt any micro-management of the day-to-day operations of the data base. However, SBT believes that it is important, given the vital nature of this effort, that the Commission assure licensed operators that the agency will continue to be concerned and involved in insuring that the protection and cooperation to be promoted by the data base will become and remain a reality. The data base will be a vital tool in assuring a peaceful introduction of BPL service, however, its maintenance and utility will need to be judged by the Commission periodically, including receipt of suggestions from licensed operators to improve the quality and accessability of information from the data base.

The Commission's Order should emphasize the requirement that BPL systems are operated under Part 15, thus at full sufferance to licensed radio services. Therefore, the burden to demonstrate that a given line, system, installation or use of BPL is operating without the creation of harmful interference must rest squarely upon the BPL operator. This requirement calls for stern vigilance by BPL operators, committed to assuring that such operations are not detrimental to licensed use of the radio spectrum. Such vigilance must extend not only to the intended operations upon fundamental frequencies, but should include those harmonics which are a likely byproduct of operations and which are often a source of interference from unlicensed radio devices. The myriad

of receivers which may suffer increased noise floors from harmonics operating in their receive bandwidth should not be taken lightly or ignored.

The central data base described above should, therefore, inform persons of the possibility that a BPL system may create harmonics which would be observed at other locations within the radio spectrum, perhaps, including a chart for persons to easily recognize that harmonics from BPL operations may be the actual cause of some observed problem. The basic idea should be to protect licensed radio services, whether engaging in cochannel operations or upon harmonic frequencies.

Interference Mitigation Requirements

The Commission should carefully express to BPL operators that the receipt of a notification of harmful interference should be handled quickly and expeditiously to respond to each such instance. The problem should not be one that is allowed to languish for days, weeks or months, while an instance is studied by a phalanx of technicians looking to confirm the cause of the interference. Such actions, which have been all too common among licensed users, places the victim of the interference in the position of having to suffer interference for prolonged periods while supposedly equitable actions are being deployed. Yet, the Commission has already found and codified the equities to be protected in the operation of licensed and unlicensed radio devices, with the latter deemed to have no rights to protection or continued operation during times of harmful interference.

The temptation of commerce will be for BPL operators to go to lengths to avoid shutting off

service to customers. Although SBT understands this circumstance, BPL operators must be willing to fully accept the consequences of operating their systems under the current regulatory framework. Whether BPL is deemed the panacea for distribution of high speed internet services or simply another competing service provider in the market, the discussion and hyperbole of the potential benefits of BPL cannot be allowed to obscure now, or in the future, the legal reality of operations. And the actions taken by BPL operators to protect licensed radio uses must be a strict requirement to enjoy continued operation of any system, in whole or in part.

SBT compliments the Commission on its inclusion of Section 15.209(f) within the proposed rules and joins with the Commission in its concern that incidents of harmful interference be dealt with quickly, employing such technology as is available to cause BPL operators to correct incidents of interference. However, SBT requests that the Commission join this rule to a strong statement within the agency's Order which directs and instructs BPL operators that the agency's codification of Section 15.209(f) speaks to capacity to react, but that BPL operators' duties do not end there. BPL operators must be clearly directed to use this technology, even if such use requires terminating service to a given area. Further, SBT requests that the Commission state clearly that even if a system is equipped with the ability to employ adaptive interference mitigation techniques, such equipping of systems alone will not be deemed to be tantamount to compliance with the agency's rules. Compliance, it should be made clear, is viewed as a BPL operator's obtaining the necessary capacity to mitigate interference AND that operator's demonstrated willingness to use that technology.

Fidelity to the agency's rules is rarely demonstrated solely by the inclusion of additional hardware within a given system. For example, the ability to monitor operations prior to transmitting is not equal to the performance of actual monitoring. Thus, adherence to law requires that the operator of a radio system employ all reasonable efforts to avoid interference and to resolve quickly all problems caused by operation. Such requirements include detection, cooperation and reaction. It will be difficult for BPL operators to detect each incident of interference. Thus, the Commission can seek cooperation from licensed radio operators to inform BPL operators through use of the data base and suggested 24-7 contact information. However, once an incident is detected, the BPL operator's demonstration of compliance must be judged by how and when mitigation techniques are employed.

To encourage BPL operators to take seriously their obligations, SBT respectfully requests that the Commission state that it will entertain complaints from licensed operators whose operations receive interference from BPL operators that exhibit an inability or unwillingness to cooperate and react to incidents of harmful interference. The Commission is assisting in creating a new form of delivery system which is under-tested, particularly in real world settings. The comments are highly mixed and controversial in persons' contentions regarding the potential of harmful interference to licensed radio services that may result from the Commission's participation in the deployment of BPL systems. The Commission has shown a healthy concern for the possibility that BPL systems might, in some instances, cause problems in real world settings. Thus, the Commission, as the arbiter and regulator of these systems, should create a welcome environment for those persons who are aggrieved by BPL operations and who have not received adequate cooperation from a given BPL operator.

The concern expressed herein is that the Commission might allow BPL systems to proliferate without necessary oversight regarding the means by which BPL operators respond to incidents of interference. The Commission should focus on the reality of operations and not simply the theoretical model. The reality is that BPL is to be deployed across infrastructures which were not originally designed or considered for such operations. The reality is that many portions of utility companies' infrastructure have been in place for years, exposed to the weather, loosening, rusting, and wind. The reality is that some BPL systems may be lit up before it is known whether the infrastructure is capable of producing the service without a myriad of adverse byproducts due to existing conditions. The reality is that some BPL operators may treat licensed operators as test subjects for determining the viability of their network for delivering services. The reality is that the consequences of allowing BPL operations might be quite detrimental to some licensed radio users. These are the realities, apart from the supposed performance of units in laboratories and display sites. Particularly in the early years of BPL's inception, it is vital that the Commission balance the needs of licensed users and the rights enjoyed by them, against the real threat of harmful interference by BPL operators who might seek to improve the bottom line through failures to properly construct, test, and operate systems in a manner which demonstrates full acknowledgment of the BPL operator's regulatory responsibilities, and the fact that the burden is on and must remain on those operators to produce a service which protects licensed operations, even if such protection requires terminating services from a BPL system at given locations.

Means Of Regulation

Absent from the text of the NPRM is a clear definition of BPL services, i.e. are these services to be regulated as "telecommunications services" or "information services" as those terms are treated within *In the Matter of IP-Enabled Services*, WT Docket No. 04-36 (released March 10, 2004) ("*IP Services*")? Since the Commission has proposed regulating the operation of these systems under Part 15 of its rules, 47 U.S.C. §302, the issue of the means of regulating the use of these systems is even more unclear. Although SBT is not concerned within this proceeding with the Commission's ultimate decision as to matters related to application of CALEA, the Universal Service Fund, etc., see *IP Services* at para. 42, the protections afforded persons under 47 U.S.C. §208 are deemed necessary to protect licensed radio operators who suffer injury as a result of BPL radiation. The transmission services provided by BPL operators should be deemed a "telecommunications service" for the purpose of assuring potentially affected persons all available remedies for adverse operations, including the application of Section 208 of the Act.

The problem which underlies the Commission's potential adoption of regulation regarding BPL is the agency's reliance upon Part 15 exclusively in setting forth the regulatory framework. Yet, typically Part 15 devices are low-power consumer devices with limited range and effect and opportunity for the creation of harmful interference to multiple persons. Additionally, Part 15 devices are not normally employed as the delivery system for hundreds of thousands of consumers' telecommunications services, except as Part 15 applies to broadcast receivers. In this proceeding, the Commission has not addressed adequately the regulatory effect of allowing unlicensed electromagnetic energy to be carried across and radiated from miles of wires, for the purpose of providing "for hire" services in a manner which is functionally equivalent to the provision of

common carriage. That the Commission has bifurcated its consideration of this issue between this proceeding and *IP Services* is troubling.

Within this proceeding, the Commission has requested comment regarding the protections for licensed radio operation as are articulated within the NPRM and whether such protections are sufficient. And although SBT believes that the Commission intends to provide equal regulatory treatment to BPL services as it applied to cable modem services in *In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internt Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities, Declaratory Ruling and Notice of Proposed Rule Making*, GN Docket No. 00-185, CS Docket No. 02-52 (released March 15, 2002) at paras. 34-59 ("*Internet Over Cable*"); thus, declaring that BPL services are "information services" not subject to regulation under Title II of the Act, SBT avers that the practical threat of harmful interference to licensed radio operations is sufficiently greater here as to warrant some vehicle for the bringing of formal complaints by aggrieved parties. Indeed, the Commission will find little, if any, treatment of the issue of harmful interference within the *Internet Over Cable* proceeding.[2] Therefore, this issue is not adequately

[2] The Commission may note that the issue of interference from cable systems is treated by that definition under 47 U.S.C. §602(7) which states that a cable system consists of "a set of closed transmission paths." The proposed definition for Access BPL does not include the requirement that the transmission paths be "closed," thus, the definition of Access BPL proposed by the Commission supports the assumption that the paths will not be closed and, therefore, a known and greater threat to cause harmful interference.

treated in that earlier proceeding and is central to the matters addressed in this proceeding, begging the question as to whether the outcome of the two matters should be equal in all respects.

SBT argues that the nature of this service and the condition of the infrastructure, including the age of most power lines, requires that the Commission consider carefully whether it is appropriate to limit the availability of remedies for noncompliance. As previously stated, SBT supports a strong and sincere statement from the Commission that it will take seriously all violations of law, rule and policy in the construction and operation of BPL systems. SBT urges the Commission to pledge to employ its enforcement authority, including the issuance of fines, cease and desist orders, and all other means at the agency's disposal to assure that BPL provides the promises and not the problems. The Commission should not be tolerant of haphazard or dilatory actions by BPL operators in resolving incidents of interference. Instead, the Commission should state its willingness to assure licensed radio operators quiet enjoyment of the radio spectrum. Additionally, the agency should state clearly that the burden of demonstrating that a BPL service is operated in accord with Part 15 and 47 U.S.C. §302 shall rest squarely on BPL operators. Only by expressing its commitment in the strongest of terms can licensed operators receive necessary assurances that the agency is not unleashing an unrestrained threat of harmful interference upon the public that, once set free, will create havoc with impunity.

SBT respectfully requests that the Commission set forth specific procedural guidelines for addressing complaints from aggrieved persons whose licensed radio systems suffer uncured interference from operation of BPL systems. If such procedures do not involve application of Section 208 of the Act, the Commission should set out clearly in its Order that aggrieved persons

may seek redress in state or federal courts. Absent some procedural and jurisdictional treatment of these issues, persons are left to wonder what steps are available to them in the event that their radio systems are disrupted intolerably by the operation of BPL systems.

Conclusion

SBT is impressed with the Commission's concern about protecting licensed operations from the threat of harmful interference which may be the result of deployment of BPL systems. SBT supports the Commission in its articulated direction to BPL operators to do all that is necessary to avoid and resolve interference. Although the Commission is, thus far, convinced that BPL systems pose a workable threat of interference that might be mitigated through vigilance and strict fidelity to the dictates of Part 15 operations, SBT is highly concerned that the Commission not allow its oversight to wane. SBT respectfully requests that the Commission remain available, responsive, and prepared to employ its considerable enforcement authority to assure licensed operators that any deployment of BPL be performed in a manner which demonstrates a healthy fidelity to both the letter and the spirit of the law for the operation of Part 15 devices.

Respectfully submitted,

SMALL BUSINESS IN TELECOMMUNICATIONS

/s/

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Dated: April 22, 2004

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